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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/413,993

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JAMES E. LANDRY

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EXAMINER

SELLERS, ROBERT E

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

03/09/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/413,993	Applicant(s) LANDRY ET AL.	
	Examiner ROBERT SELLERS	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2009 and 01 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-18 is/are pending in the application.
- 4a) Of the above claim(s) 7-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7 October 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This is responsive to the granting of the petition to revive the application on February 1, 2010 and the elections of Epon 8161 (diglycidyl ether of bisphenol A mixed with acrylate monomers as the epoxy compound of epoxy component a) and Epi-Cure 3164 polyamide as the curing agent of curing component 2).
2. Claims 11-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. The election was made **without** traverse in the reply filed August 17, 2006. Claims 7-9 are withdrawn as directed to non-elected species due to the additional presence of the additional nonelected species of a) diglycidyl ether of bisphenol A mixed with a C₁₂-C₁₃ alkyl glycidyl ether and separate c) C₁₂-C₁₃ alkyl glycidyl ether.
3. The amendment to page 6, line 8 filed November 23, 2009 is improper. The added " C₁₂-C₁₃ alkyl glycidyl ether" has not been underlined.
4. The Hexion Product Overview attached to the election filed November 23, 2009 and Chemical abstracts registry no. 185228-02-8 cited in the Notice of References Cited, Form PTO-892 accompanying the supplemental election of species requirement filed May 23, 2008 establishes Epon 8132 as a polyacrylate epoxy resin.

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5. The component in the epoxy mixture is described as “acrylic resins” on page 4, line 22 of the specification and denoted in claim 6, line 3, but is defined as d) a polyacrylate copolymer in withdrawn claims 7-9. Page 6, lines 11-12 designates Byk 361 without identifying its chemical name. Byk 361 is an acrylic resin according to Chemical abstracts registry no. 134633-08-2 cited in the PTO-892. Is the acrylic resin in epoxy component a) of claim 6 the same as the polyacrylate copolymer d) of claims 7-9? If so, this component should be named as an acrylic resin with respect to the Byk 361 tradename as well as in component d) of claims 7-9 for the sake of consistency.

6. There is no enablement for the d) polyacrylate copolymer of withdrawn claims 7-9 on page 7, lines 11-12 only naming Byk 361 without a description of its constitution. More favorable consideration would be given to the amendment of page 7, lines 11-12 to identify Byk 361 as an acrylic resin and the designation of component d) in claims 7-9 as an acrylic resin for the sake of consistency.

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7. The Epon 8132 described on page 6, line 12 of the specification has been amended to indicate a polyacrylate epoxy resin in the amendment filed November 23, 2009. However, the b) diglycidyl ether of bisphenol A mixed with acrylate monomers of withdrawn claim 7 is not enabled by the polyacrylate epoxy resin described on page 6, line 12 which is a reaction product of an epoxy resin with acrylic acid (i.e. the epoxy diacrylate in Table 11, Epon 8161, Comments on page 10) as opposed to the claimed mixture with acrylic monomers. Neither the Hexion Product Overview nor the Chemical abstracts registry number confirms the epoxy resin of the polyacrylate epoxy resin as being a diglycidyl ether of bisphenol A. More favorable consideration would be given to the amendments of page 6, line 11 and withdrawn claim 7, lines 3-4 of component a) to "an epoxy diacrylate."

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf Patent No. 6,274,939; Scarlette Patent No. 6,956,079 or Neuner Patent No. 6,160,041.

8. Wolf (col. 5, lines 44-46) discloses the blending of an epoxy resin with a hardener and ceramic filler.

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9. Neuner (col. 4 lines 58-63 formulation table) shows a mixture of 95 parts by weight of GY6008 diglycidyl ether of bisphenol A (col. 3, lines 45-51), 5 parts by weight of GY025 aliphatic glycidyl ether diluent (col. 3, lines 56-60), 43.7 parts by weight of Jeffamine T403 polyoxypropyleneamine curing agent (col. 4, lines 6-8) and G3500 hollow ceramic microspheres (col. 4, lines 26-29).

10. Scarlett reports a composition comprising an from about 40 to about 90 percent by weight (col. 2, lines 34-36) of an epoxy resin (col. 2, line 18), from about 10 to about 60 weight percent of a sol gel process ceramic grain (col. 2, lines 36-37) pre-treated with an organosilane coupling agent (col. 2, lines 50-56), other metal oxide particles such as silica (col. 5, line 19) and Byk 361 acrylated silicon flow control agent (col. 8, Example 1 table, line 54).

11. Wolf and Neuner do not recite the claimed acrylic resins. It would have been obvious to add the Byk 361 of Scarlett to the formulations of Wolf and Neuner in order to control the flow.

12. The controlling limitation in claim 6 is the combined epoxy and curing components in a 1:1 volume ratio which is not recited in the prior art applied hereinabove. The claimed "separate mixtures" and separate presence of the ceramic particles in the epoxy and curing components are superseded by the required language of combined components.

13. It would have been obvious to combine the epoxy and curing components of the references in a 1:1 ratio by volume in order to optimize the uniformity of the mixture as well as the curability.

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Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over.

Bluem et al. Patent No. 6,214,460

14. Bluem et al. (col. 24, Example 24, lines 39-55) shows a composition containing a diglycidyl ether of bisphenol A epoxy resin, phenoxyethyl acrylate and isobornyl acrylate, Acamine 2337S curing agent (an adduct of an amine with an epoxy resin according to column 7, lines 63-64 and column 8, lines 10-13), silica and an epoxy diacrylate. A thermally conductive, electrically insulated material in spherical form (col. 9, line 12) can be included such as ceramics (col. 15, lines 18-23).

15. The claimed ceramic particles are disclosed but not exemplified. It would have been obvious to incorporate the disclosed ceramic spheres of Bluem et al. into the formulation of Example 24 in order to impart thermal conductivity thereto.

16. The claimed combined epoxy and curing components in a 1:1 volume ratio is not recited. It would have been obvious to combine the epoxy and curing components of Bluem et al. in a 1:1 ratio by volume in order to optimize the uniformity of the mixture as well as the curability.

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The prior art made of record and not relied upon is considered pertinent to the disclosure.

17. Corley et al. Patent No. 6,127,508 (col. 12, lines 7-9) shows Epon 8132 (a mixture of epoxy resin and C₁₂-C₁₃ aliphatic glycidyl ether according to page 6, lines 7-8 of the instant specification) and an amine-terminated polyamide (col. 2, line 21) blended with flow control additives, fillers and reinforcing agents (col. 6, lines 14-17) such as fiberglass (col. 7, line 4).

(571) 272-1093 (Fax No. (571)-273-8300)
Monday to Friday, 9:30 to 6:00

/Robert Sellers/
Primary Examiner
Division 1796

rs
2/4/2010